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8-28-02
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RAW SEQUENCE LISTING   DATE: 08/20/2002
PATENT APPLICATION: US/09/730,374A   TIME: 14:13:37

Input Set : A:\150188US2.txt
Output Set: N:\CRF4\08202002\I730374A.raw

ENTERED

```
 4 <110> APPLICANT: Lust, John A.
 5 ·       Donovan, Kathleen A.
 7 <120> TITLE OF INVENTION: USE OF GENETICALLY ENGINEERED ANTIBODIES TO CD38 TO TREAT
MULTIPLE MYELOMA
10 <130> FILE REFERENCE: 150.188US2
12 <140> CURRENT APPLICATION NUMBER: 09/730,374A
13 <141> CURRENT FILING DATE: 2000-12-05
15 <150> PRIOR APPLICATION NUMBER: PCT/US99/12512
16 <151> PRIOR FILING DATE: 1999-06-04
18 <150> PRIOR APPLICATION NUMBER: 60/088,277
19 <151> PRIOR FILING DATE: 1998-08-05
21 <160> NUMBER OF SEQ ID NOS: 5
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 750
27 <212> TYPE: DNA
28 <213> ORGANISM: Artificial Sequence
30 <220> FEATURE:
31 <223> OTHER INFORMATION: A nucleotide sequence encoding a single chain
32        variable region fragment (scFv)
34 <400> SEQUENCE: 1
35 ggcccagccg gccatggcca aggtccagct gcaggagtca ggacctagcc tagtgcagcc      60
36 ctcacagcgc ctgtccataa cctgcacagt ctctggtttc tcattaatta gttatggtgt     120
37 acactgggtt cgccagtctc caggaaaggg tctggagtgg ctgggagtga tatggagagg     180
38 tggaagcaca gactacaatg cagctttcat gtccagactg agcatcacca aggacaactc     240
39 caagagccaa gttttcttta aaatgaacag tctgcaagct gatgacactg ccatatactt     300
40 ctgtgccaaa accttgatta cgacgggcta tgctatggac tactggggcc aagggaccac     360
41 ggtcaccgtc tcctcaggtg gaggcggttc aggcggaggt ggctctggcg gtggcggatc     420
42 ggacatcgag ctcactcagt ctccatcctc cttttctgta tctctaggag acagagtcac     480
43 cattacttgc aaggcaagtg aggacatata taatcggtta gcctggtatc agcagaaacc     540
44 aggaaatgct·cctaggctct aatatctggt gcaaccagtt ttggaaactg gggttccttc     600
45 aagattcagt ggcagtggat ctggaaagga ttacactctc agcattacca gtcttcagac     660
46 tgaagatgtt gctacttatt actgtcaaca gtattggagt actcctacgt tcggtggagg     720
47 gaccaagctg gaaatcaaac gggcggccgc                                      750
49 <210> SEQ ID NO: 2
50 <211> LENGTH: 241
51 <212> TYPE: PRT
52 <213> ORGANISM: Artificial Sequence
54 <220> FEATURE:
55 <223> OTHER INFORMATION: A polypeptide encoded by an open reading frame of
56        SEQ ID NO:1
58 <400> SEQUENCE: 2
59 Gly Pro Ala Gly His Gly Gln Gly Pro Ala Ala Gly Val Arg Thr Pro
60 1               5                   10                  15
```

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```
61 Ser Ala Ala Leu Thr Ala Pro Val His Asn Leu His Ser Leu Trp Phe
62              20              25              30
63 Leu Ile Asn Leu Trp Cys Thr Leu Gly Ser Pro Val Ser Arg Lys Gly
64              35              40              45
65 Ser Gly Val Ala Gly Ser Asp Met Glu Arg Trp Lys His Arg Leu Gln
66      50              55              60
67 Cys Ser Phe His Val Gln Thr Glu His His Gln Gly Gln Leu Gln Glu
68 65              70              75              80
69 Pro Ser Phe Leu Asn Glu Gln Ser Ala Ser His Cys His Ile Leu Leu
70              85              90              95
71 Cys Gln Asn Leu Asp Tyr Asp Gly Leu Cys Tyr Gly Leu Leu Gly Pro
72              100             105             110
73 Arg Asp His Gly His Arg Leu Leu Arg Trp Arg Arg Phe Arg Arg Arg
74              115             120             125
75 Trp Leu Trp Arg Trp Arg Ile Gly His Arg Ala His Ser Val Ser Ile
76      130             135             140
77 Leu Leu Phe Cys Ile Ser Arg Arg Gln Ser His His Tyr Leu Gln Gly
78 145             150             155             160
79 Lys Gly His Ile Ser Val Ser Leu Val Ser Ala Glu Thr Arg Lys Cys
80              165             170             175
81 Ser Ala Leu Asn Ile Trp Cys Asn Gln Phe Gly Asn Trp Gly Ser Phe
82              180             185             190
83 Lys Ile Gln Trp Gln Trp Ile Trp Lys Gly Leu His Ser Gln His Tyr
84              195             200             205
85 Gln Ser Ser Asp Arg Cys Cys Tyr Leu Leu Leu Ser Thr Val Leu Glu
86      210             215             220
87 Tyr Ser Tyr Val Arg Trp Arg Asp Gln Ala Gly Asn Gln Thr Gly Gly
88 225             230             235             240
89 Arg
92 <210> SEQ ID NO: 3
93 <211> LENGTH: 249
94 <212> TYPE: PRT
95 <213> ORGANISM: Artificial Sequence
97 <220> FEATURE:
98 <223> OTHER INFORMATION: A polypeptide encoded by an open reading frame of
99      SEQ ID NO:1
102 <400> SEQUENCE: 3
103 Ala Gln Pro Ala Met Ala Lys Val Gln Leu Gln Glu Ser Gly Pro Ser
104  1               5               10              15
105 Leu Val Gln Pro Ser Gln Arg Leu Ser Ile Thr Cys Thr Val Ser Gly
106              20              25              30
107 Phe Ser Leu Ile Ser Tyr Gly Val His Trp Val Arg Gln Ser Pro Gly
108              35              40              45
109 Lys Gly Leu Glu Trp Leu Gly Val Ile Trp Arg Gly Gly Ser Thr Asp
110      50              55              60
111 Tyr Asn Ala Ala Phe Met Ser Arg Leu Ser Ile Thr Lys Asp Asn Ser
112 65              70              75              80
113 Lys Ser Gln Val Phe Phe Lys Met Asn Ser Leu Gln Ala Asp Asp Thr
114              85              90              95
```

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```
115 Ala Ile Tyr Phe Cys Ala Lys Thr Leu Ile Thr Thr Gly Tyr Ala Met
116             100             105             110
117 Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly
118         115             120             125
119 Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu
120     130             135             140
121 Thr Gln Ser Pro Ser Ser Phe Ser Val Ser Leu Gly Asp Arg Val Thr
122 145                 150             155                 160
123 Ile Thr Cys Lys Ala Ser Glu Asp Ile Tyr Asn Arg Leu Ala Trp Tyr
124             165             170             175
125 Gln Gln Lys Pro Gly Asn Ala Pro Arg Leu Leu Ile Ser Gly Ala Thr
126             180             185             190
127 Ser Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
128         195             200             205
129 Lys Asp Tyr Thr Leu Ser Ile Thr Ser Leu Gln Thr Glu Asp Val Ala
130     210             215             220
131 Thr Tyr Tyr Cys Gln Gln Tyr Trp Ser Thr Pro Thr Phe Gly Gly Gly
132 225             230             235                 240
133 Thr Lys Leu Glu Ile Lys Arg Ala Ala
134             245
136 <210> SEQ ID NO: 4
137 <211> LENGTH: 239
138 <212> TYPE: PRT
139 <213> ORGANISM: Artificial Sequence
141 <220> FEATURE:
142 <223> OTHER INFORMATION: A polypeptide encoded by an open reading frame of
143       SEQ ID NO:1
146 <400> SEQUENCE: 4
147 Pro Ser Arg Pro Trp Pro Arg Ser Ser Cys Arg Ser Gln Asp Leu Ala
148  1               5               10              15
149 Cys Ser Pro His Ser Ala Cys Pro Pro Ala Gln Ser Leu Val Ser His
150             20              25              30
151 Leu Val Met Val Tyr Thr Gly Phe Ala Ser Leu Gln Glu Arg Val Trp
152         35              40              45
153 Ser Gly Trp Glu Tyr Gly Glu Val Glu Ala Gln Thr Thr Met Gln Leu
154     50              55              60
155 Ser Cys Pro Asp Ala Ser Pro Arg Thr Thr Pro Arg Ala Lys Phe Ser
156 65              70              75              80
157 Leu Lys Thr Val Cys Lys Leu Met Thr Leu Pro Tyr Thr Ser Val Pro
158             85              90              95
159 Lys Pro Leu Arg Arg Ala Met Leu Trp Thr Thr Gly Ala Lys Gly Pro
160             100             105             110
161 Arg Ser Pro Ser Pro Gln Val Glu Ala Val Gln Ala Glu Val Ala Leu
162         115             120             125
163 Ala Val Ala Asp Arg Thr Ser Ser Ser Leu Ser Leu His Pro Pro Phe
164     130             135             140
165 Leu Tyr Leu Glu Thr Glu Ser Pro Leu Leu Ala Arg Gln Val Arg Thr
166 145                 150             155                 160
167 Tyr Ile Ile Gly Pro Gly Ile Ser Arg Asn Gln Glu Met Leu Leu Gly
```

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```
168                    165              170              175
169 Ser Tyr Leu Val Gln Pro Val Trp Lys Leu Gly Phe Leu Gln Asp Ser
170            180              185              190
171 Val Ala Val Asp Leu Glu Arg Ile Thr Leu Ser Ala Leu Pro Val Phe
172        195              200              205
173 Arg Leu Lys Met Leu Leu Leu Ile Thr Val Asn Ser Ile Gly Val Leu
174    210              215              220
175 Leu Arg Ser Val Glu Gly Pro Ser Trp Lys Ser Asn Gly Arg Pro
176 225            230              235
178 <210> SEQ ID NO: 5
179 <211> LENGTH: 750
180 <212> TYPE: DNA
181 <213> ORGANISM: Artificial Sequence
183 <220> FEATURE:
184 <223> OTHER INFORMATION: A nucleotide sequence complementary to SEQ ID NO:1
185       (presented in 5'-3' orientation)
187 <400> SEQUENCE: 5
188 gcggccgccc gtttgatttc cagcttggtc cctccaccga acgtaggagt actccaatac    60
189 tgttgacagt aataagtagc aacatcttca gtctgaagac tggtaatgct gagagtgtaa   120
190 tcctttccag atccactgcc actgaatctt gaaggaaccc cagtttccaa actggttgca   180
191 ccagatatta agagcctagg agcatttcct ggtttctgct gataccaggc taaccgatta   240
192 tatatgtcct cacttgcctt gcaagtaatg gtgactctgt ctcctagaga tacagaaaag   300
193 gaggatggag actgagtgag ctcgatgtcc gatccgccac cgccagagcc acctccgcct   360
194 gaaccgcctc cacctgagga gacggtgacc gtggtccctt ggccccagta gtccatagca   420
195 tagcccgtcg taatcaaggt tttggcacag aagtatatgg cagtgtcatc agcttgcaga   480
196 ctgttcattt taaagaaaac ttggctcttg gagttgtcct tggtgatgct cagtctggac   540
197 atgaaagctg cattgtagtc tgtgcttcca cctctccata tcactcccag ccactccaga   600
198 ccctttcctg gagactggcg aacccagtgt acaccataac taattaatga gaaaccagag   660
199 actgtgcagg ttatggacag gcgctgtgag ggctgcacta ggctaggtcc tgactcctgc   720
200 agctggacct tggccatggc cggctgggcc                                    750
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VERIFICATION SUMMARY   DATE: 08/20/2002
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